

What is claimed is:

1. A card settlement method using a mobile information terminal provided with an IC card read/write function and a wireless communication function for the settlement of a transaction in a business establishment, comprising:

5 a step of having a customer using a business establishment wirelessly connect to an authorization server through a network by the mobile information terminal,

10 15 a step of having the customer load his or her IC card in the mobile information terminal, read the information stored in this IC card, and send it to the authorization server,

20 a step of having the authorization server decide on the authorization of the current transaction from authentication information stored in the IC card and proving the legitimacy of the card, settlement information containing at least a card number, and personal identification information input from the customer and proving the legitimacy of the customer,

25 a step of sending a temporary password issued from a settlement server to the mobile information terminal for display after the authorization of the current transaction,

30 a step of inputting the temporary password and the current transaction information from a business establishment side settlement terminal and sending it to the settlement server, and

35 a step of having the settlement server settle the transaction with the password and the transaction information satisfying the settlement conditions.

2. A card settlement method using a mobile information terminal provided with an IC card read/write function and a wireless communication function for the settlement of a transaction in a business establishment,

comprising:

5 a step of having a customer using a business establishment wirelessly connect with an authorization server through a network by the mobile information terminal,

10 a step of having the customer load his or her IC card and a business establishment IC card provided in the business establishment in the mobile information terminal, read the information stored in these IC cards, and send it to the authorization server,

15 a step of having the authorization server decide on legitimacy of these IC cards from authentication information stored in the IC card of the customer and proving legitimacy of the customer and business establishment information stored in the business establishment IC card and specifying the business establishment,

20 a step of having the authorization server authenticate the customer from personal identification information input from the customer and proving the legitimacy of the customer after these IC cards are authenticated,

25 a step of having the settlement server decide on authorization of the current transaction by settlement information stored in the IC card of the customer and containing at least a card number and current transaction information input by the customer after the customer is authenticated, and

30 a step of having the settlement server settle the transaction where it is decided that the current transaction satisfies the settlement conditions.

35 3. A card settlement method using a mobile information terminal provided with an IC card read/write function and a short distance wireless communication function and a settlement terminal on a business establishment side provided with a short distance wireless communication function, comprising

a step of having a customer using a business establishment wirelessly connect the mobile information terminal with a settlement terminal on the business establishment side,

5 a step of having the customer load his or her IC card in the mobile information terminal and send the information stored in this IC card and personal identification information input from the customer and proving legitimacy of the customer to the settlement terminal,

10 15 a step of sending the authentication information and personal identification information stored in the IC card and proving the legitimacy of the card to an authorization server from the settlement terminal through a settlement network,

15 a step of having the authorization server decide on a legitimacy of the IC card and a legitimacy of the customer based on the authentication information and the personal identification information,

20 25 a step of having the customer wirelessly inputting information containing at least a card number stored in the IC card and transaction information input by the customer to the settlement terminal on the business establishment side after the IC card and the customer are authenticated,

a step of having the settlement terminal decide a validity of the current transaction,

30 a step of sending the current transaction information together with business establishment information for specifying the business establishment from the settlement terminal through the settlement network to the settlement server after the confirmation of the validity, and

35 a step of having the settlement server carry out the settlement.

4. A card settlement system using a mobile information terminal as set forth in either one of claims

1 to 3, wherein, further, after said settlement is executed by said settlement server, a receipt is issued from said settlement terminal on business establishment side.

5 5. A card settlement system wherein a settlement terminal installed in a business establishment is connected through a settlement network with an authorization server and a settlement server retained by a card company or a bank, and a customer can perform the settlement by using a card, providing following means of:

an application server provided in the mobile information terminal, and providing a read/write function of an IC card for performing a read/write operation of information with respect to the IC card with authentication information proving a legitimacy of the card, personal identification information proving the legitimacy of the customer and settlement information containing at least a card number stored therein,

20 a storage of an application software for a specific service, a control of a screen of said mobile information terminal and a gateway function between the network of said mobile information terminal and said settlement network, and

25 a password issuance function provided in
said settlement server issuing a temporary password based
on settlement information input from said IC card through
the network of said mobile information terminal, said
application server and said settlement network.

30 6. A card settlement system using a mobile information terminal as set forth in claim 5, wherein the settlement is carried out by the following procedure when a customer incurs a charge at a business establishment:

legitimacy of this IC card is decided by said authorization server based on the authentication information stored in said IC card,

5 the personal identification information is input from the input device of said mobile information terminal by the customer and sent to said authorization server after it is verified that said card is legitimate,

10 the settlement information stored in said IC card is input by the customer and sent to said settlement server after the customer is verified by the personal identification information,

15 a temporary password issued from said settlement server based on said personal identification information, settlement information, and reception time is sent to said mobile information terminal and displayed on a display unit thereof,

20 the displayed temporary password and this time sales information are input from said settlement terminal installed in said business establishment, and

25 a receipt is issued from said settlement terminal of the business establishment by a signal from said settlement server for a transaction satisfying the settlement conditions after said temporary password and transaction information are checked by said settlement server.

30 7. A card settlement system wherein a settlement terminal installed in a business establishment is connected through a settlement network with an authorization server and a settlement server retained by a card company or a bank and wherein a customer can settle a transaction by using a card, provided with:

35 a read/write function of an IC card provided in a mobile information terminal and reading/writing information with respect to a personal IC card storing settlement information containing at least a card number, an expiration date of the card, and a customer name and a business establishment IC card

storing business establishment information containing at least a transaction member business establishment ID and
5 an application server storing application software for a specific service, controlling a screen of the mobile information terminal, and providing a gateway function between the network of the mobile information terminal and the settlement network.

8. A card settlement system using a mobile information terminal as set forth in claim 7, wherein the 10 settlement is carried out by the following procedure when a customer incurs a charge at a business establishment:

15 said mobile information terminal with said personal and business establishment IC cards inserted therein is connected via said application server with said authorization server, and the authentication information stored in two IC cards and proving legitimacy of individual cards are transmitted to said authorization server,

20 a legitimacy of the two IC cards is decided by said authorization server based on the authentication information stored in said IC cards,

25 the personal identification information is input from the input device of said mobile information terminal by the customer and sent to said authorization server after it is verified that said two IC cards are legitimate,

30 the settlement information stored in said personal IC card and business establishment information stored in said business establishment IC card are sent together to said settlement server after the customer is verified by the personal identification information, and

35 the receipt is issued from the settlement terminal of said business establishment by the signal from said settlement server for transactions satisfying the settlement conditions after said settlement information, business establishment information, and transaction information are checked by said settlement

server.

9. A card settlement system using a mobile information terminal as set forth in claim 5 or 7, wherein said application server is provided in a service center located between the network of said mobile information terminal and said settlement network, and said authorization server is provided in this service center.

10 10. A card settlement system using a mobile information terminal as set forth in claim 5 or 7, wherein the authentication function corresponding to said authorization server is provided in said mobile information terminal, and the authentication of legitimacy of said IC card is carried out in said mobile information terminal.

15 11. A card settlement system wherein a settlement terminal installed in a business establishment is connected through a settlement network with an authorization server and a settlement server retained by a card company or a bank and wherein a customer can settle a transaction by using a card, provided with:

20 a wireless module provided in a mobile information terminal owned by a customer,

25 a read/write function of an IC card provided in the mobile information terminal and reading and writing information with respect to an IC card storing settlement information containing at least a card number, an expiration date of the card, and a customer name, and

30 a wireless module provided in a settlement terminal capable of communicating with the wireless module of the mobile information terminal.

35 12. A card settlement system using a mobile information terminal as set forth in claim 11, wherein the settlement is carried out by the following procedure when a customer incurs a charge at a business establishment:

said mobile information terminal with said IC card inserted therein by the customer is connected with said settlement terminal of business establishment via said wireless module, and the authentication information stored in said IC card and proving the legitimacy of the card and the personal identification information proving the legitimacy of the customer input by the customer are transmitted to said settlement terminal,

10 the authentication information stored in
said IC card and the personal identification information
input by the customer are transmitted from said
settlement terminal through said settlement network to
said authorization server,

15 the legitimacy of this IC card and the legitimacy of the user are decided by said authorization server based on said authentication information and personal identification information,

the settlement information stored in said
20 IC card and input transaction sum information and
commodity information are transmitted via said wireless
module to said settlement terminal after said IC card and
user are verified,

validities of the commodity and sum are
25 examined by said settlement terminal,

30 said settlement information, charge information, and business establishment information are transmitted from said settlement terminal through said settlement network to said settlement server via said authorization server after verification of the validities, and

the validity of the related transaction is examined by said settlement server based on said received settlement information, charge information, and business establishment information, the result thereof and the receipt are sent through said settlement network to said settlement terminal, and the receipt is issued from said

settlement terminal of the business establishment.

13. A card settlement system using a mobile information terminal as set forth in claim 12, wherein an application server is provided between said settlement network and said settlement terminal, and said authorization server is installed in this application server.

14. A card settlement system using a mobile information terminal as set forth in claim 11, wherein one said settlement terminal can simultaneously execute settlement processing with a plurality of mobile information terminals via said wireless mobile.

15. A card settlement system using a mobile information terminal as set forth in claim 4, wherein when the receipt is issued from said settlement terminal of a business establishment by said settlement server, the settlement result is displayed on also a display unit of said mobile information terminal via said application server.

20 16. A card settlement system using a mobile information terminal as set forth in any one of claims 5, 8, or 12, wherein

25 as the authentication of the user by said personal identification information, bio information such as a fingerprint, voiceprint, and retina print of the user is registered in the IC card in advance by a bio information reader, the bio information is read at the time of authentication of the user by this bio information reader and compared with the bio information in the IC card, and the user is thereby verified.

30 17. A card settlement system using a mobile information terminal as set forth in any one of claims 5, 8, or 12, wherein

35 specific information concerning a matter known to only the user is registered in the IC card in advance as the authentication of the user by said personal identification information, the user inputs this

specific information at the time of authentication of the user, this is compared with the specific information in the IC card, and the user is thereby verified.

18. A card settlement system using a mobile information terminal as set forth in claim 5, wherein a read/write function of the IC card is externally given to said mobile information terminal.

19. A card settlement system using a mobile information terminal as set forth in claim 5, wherein a read/write function of the IC card is built-in said mobile information terminal.

20. A card settlement system using mobile information terminal as set forth in claim 5, wherein said mobile information terminal is a mobile telephone.